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EXPLORING ACCESS TO CANCER CONTROL SERVICES FOR ASIAN-AMERICAN AND PACIFIC ISLANDER COMMUNITIES IN SOUTHERN CALIFORNIA

During the last 25 years, numerous studies have been conducted to promote breast cancer and cervical cancer screening. Most of these studies focused on individual-level factors predicting screening, but we are unaware of any that directly examined community and ecological influences. The goal of this project, Promoting Access to Health for Pacific Islander and Southeast Asian Women (PATH for Women), was to increase community capacity for breast and cervical cancer screening and follow up in Los Angeles and Orange counties. We focused on Southeast Asian and Pacific Islander women because, although they have the lowest rates for cancer, compared to all other ethnic groups, relatively few programs have specifically targeted Asian-American and Pacific Islander (AAPI) women to promote and sustain screening practices. The PATH for Women project involved a partnership between 5 community-based organizations and 2 universities, and included 7 Asian-American and Pacific Islander communities: Cambodians, Chamorros, Laotians, Thais, Tongans, Samoans, and Vietnamese. In this paper, we share our experiences in developing a Geographic Information System (GIS)-mapping evaluation component that was used to explore availability and accessibility to culturally responsive breast and cervical cancer screening services for Southeast Asian and Pacific Islander women in all 7 communities. We describe the methods used to develop the maps, and present the preliminary findings that demonstrate significant geographic and language barriers to accessing healthcare providers, services for breast and cervical cancer screening, and follow up, in each of the communities. Finally, we discuss implications for programs designed to promote breast and cervical screening and policy education. (*Ethn Dis*. 2004;14[suppl 1]:S1-14-S1-19)

Key Words: Asian American and Pacific Islanders, Breast Cancer, Cancer Screening, Cervical Cancer, Culturally Competent, Geographic Access, GIS Mapping, Language Access, Limited English Proficient

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INTRODUCTION

A growing number of studies document that Asian-American and Pacific Islander (AAPI) women have the lowest screening rates for cancer, compared to all other ethnic groups.¹⁻⁵ In California, AAPI women are less likely to have ever had a mammogram or Pap smear than women in the general population, and few programs designed to promote and sustain screening practices have specifically targeted AAPI women. On an individual level, barriers to screening for AAPI women include lack of knowledge about cancer risk factors and symptoms, low or no health insurance coverage, low English language proficiency, lack of physician cultural competency, cultural factors (such as modesty), and logistical factors (such as lack of transportation and childcare).⁶ On the community-level, however, little is known about the barriers to screening for AAPI women.

An increasing number of studies in mainstream literature have begun to use Geographic Information System (GIS) mapping to assess barriers to healthcare

access, and the subsequent impact on cancer prevention, detection, and mortality.⁷ For instance, Rushton and West found that existence of a radiation treatment center increases breast-conserving treatment and lowers mastectomy rates for women diagnosed with breast cancer.⁸ Johnson et al found that living within 4–64 kilometers of a hospital with a Comprehensive Cancer Program increased the odds of eligible men receiving a radical prostatectomy.⁹ GIS has also been used to map cancer cases in an attempt to identify potential environmental influences on cancer incidence and prevalence. Finally, while they did not use GIS techniques per se, Sloane et al looked at the nutritional environment for African Americans in Los Angeles and found that both the number and quality of grocery stores were significantly lower, compared to stores in a wealthier city.¹⁰

The issue of geographic access to health and social services for AAPI populations takes on added complexity because of the need for culturally and language-relevant services. Compared with all other races, AAPI groups contain the highest proportion of linguistically isolated people (33.8%), defined as individuals in households in which no one aged 14 years or older speaks English “very well.”¹¹ In one of 3 Asian households, no one over the age of 14 years speaks English well. California is home to the largest AAPI population in this country, and has been at the forefront of grappling with the issues of improving linguistic access for people with limited English language proficiency. A recent study in Los Angeles and Orange counties found that access to language-

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Table 1. PATH population sizes in Los Angeles and Orange counties, 2000

API Population	Los Angeles 2000 Census	Orange 2000 Census
Cambodian	34,032	5,359
Chamorro or Guamanian	5,188	2,318
Laotian	3,569	3,208
Samoan	16,163	4,555
Thai	24,151	3,822
Tongan	2,627	610
Vietnamese	89,080	151,164

specific medical providers is very low for Chinese (Mandarin and Cantonese), Korean, Thai, and Vietnamese patients.¹²

This study applies GIS-mapping techniques to explore the availability and accessibility of appropriate health and social services for low-income, monolingual, and limited English-proficient women seeking breast and cervical cancer screenings and follow up in 7 AAPI communities. We detail the methods and analyses used, present our findings, and then discuss implications for policy formulation, as well as for future studies.

METHODS

The Promoting Access to Health for Pacific Islander and Southeast Asian Women (PATH for Women) Project is a 5-year, Centers for Disease Control and Prevention (CDC)-funded Racial and Ethnic Approaches to Community Health (REACH) 2010 effort to increase breast and cervical cancer screening rates for 7 communities of Pacific Islander and Southeast Asian women in Los Angeles and Orange counties (see Table 1 for population sizes in each county). Two universities (California State University, Fullerton, and the University of California, Los Angeles) and 5 nonprofit, community-based agencies, formed the collaborative, including the Orange County Asian and Pacific Islander Community Alliance (whose Executive Director is the Principal Inves-

tigator, and the implementing agency for the Vietnamese community), Special Service for Groups (the fiscal sponsor of, and implementing agency for, the Thai and Tongan communities), Guam Communications Network (for the Chamorro community), Families in Good Health (a program of the St. Mary's Medical Center, and the implementing agency for the Cambodian and Laotian communities), and the Samoan National Nurses Association. The collaborative and intervention plans employed in the PATH for Women project are described in detail elsewhere.¹³

In July 2001, the PATH for Women project began the planning for a component designed to assess access to health services for AAPI women. The goal of this effort was 2-fold: 1) to map existing services in order to better understand availability and accessibility of services for our 7 communities; and 2) to identify gaps in access that could be targeted for policy or procedural changes by the entire collaborative of health care and social services agencies at the local and state levels. An inventory instrument was developed by the core planning and evaluation team that would be completed by community outreach workers at each of the 5 PATH collaborating partner agencies. This instrument requested information regarding a diverse range of services, including: non-medical social service agencies, medical doctors, medical organizations, screening services, community organizations, cultural programs, childcare agencies, transportation services, tradi-

tional healers, religious facilities, etc. These services were differentiated from those that already served AAPI women in each of the 7 communities (eg, an existing hospital used by many women in the community), and those in close proximity (defined as within a one-mile radius), but not necessarily being used by AAPI women. Specifically, the inventory tool sought the names of agencies/programs/services in Los Angeles and Orange counties serving AAPIs in each of the 7 PATH for Women communities, and some basic characteristics of each (such as address and bilingual capacity). In January 2002, the community-based partners completed the inventories of the major health and social service agencies, or programs for women, located in their specific AAPI communities of Los Angeles and Orange counties, that supported, or could support, women's breast and cervical cancer screening. In order to complete the inventory, each community-based program partner held at least one meeting of all AAPI staff and volunteers to generate the names and locations of appropriate agencies. The information was handwritten onto the inventory, and then entered by PATH for Women administrative staff into Excel spreadsheets for further spatial analysis.

Researchers from the Ralph and Goldy Lewis Center for Regional Policy Studies at the UCLA School of Public Policy and Social Research conducted all the GIS-mapping activities. Spatial analyses included data collected from 3 sources: the inventory tool, the 2000 US Census, and the Breast Cancer Early Detection Program (BCEDP), which supplied information on providers (in Los Angeles County only). GIS software (ArcView) was then used to develop maps of each community, with health, social, and breast cancer screening services categorically and geographically plotted on top of population locations.

Analyses involved a 2-step process. First, concentrations of each AAPI population in Los Angeles and Orange

Table 2. Language availability—number of language available health, social service, and BCEDP facilities in Los Angeles and Orange County

	Health Facilities (N=542)	Social Service Facilities (N=138)	BCEDP Providers (N=533)
Cambodian	10 (2%)	12 (9%)	8 (2%)
Chamorro	0	1 (1%)	1 (0%)
Laotian	10 (2%)	7 (5%)	8 (2%)
Samoan	6 (1%)	23 (17%)	5 (1%)
Thai	22 (4%)	15 (11%)	22 (4%)
Tongan	0	2 (1%)	2 (0%)
Vietnamese	49 (9%)	20 (14%)	46 (9%)

BCEDP = Breast Cancer Early Detection Program.

counties were identified by using the following criteria: more than 50 individuals residing in a Census 2000 tract who identified themselves as being of the specific population of interest (eg, Cambodian, based upon either the “single-race” and “inclusive-race” counts); the specific population of interest comprised a relatively high percentage (more than twice the averages for Los Angeles and Orange counties) of the total tract population; the density of the specific population of interest was relatively high (more than twice the averages for Los Angeles and Orange counties) within the tract; and the AAPI population residing in that tract had a relatively high poverty rate (greater than the averages for Los Angeles and Orange counties). Next, access to agencies/programs/services was calculated for each community, with a specific focus on 3 types of access: availability of language-specific agencies/programs/services, geographic proximity (defined as the proportion of the population residing within one mile of a facility), and language accessibility (defined as the proportion of the population residing within one mile of a language-specific facility). While the distance of one mile for geographic proximity is a rough measure of access, this distance is based upon literature in the planning field that has used such a measure for job access for urban and underserved populations.^{14,15}

RESULTS

Some 678 health and social services, and BCEDP provider facilities were identified across all 7 communities, which included 542 health services, 138 social services, and 533 BCEDP providers (total = >678, due to category overlap). The availability of facilities with in-language capacity ranged from 10% of facilities for Vietnamese (N=67), to less than 1% of facilities for Chamorros (N=1) (data not shown). As seen in Table 2, social services tended to be more language-specific than either health services or BCEDP provider facilities, but the availability ranged from very low to nearly non-existent.

Geographic proximity to health, social service, and BCEDP providers is shown for each community in Table 3. Chamorros had the smallest proportion

(43%) of community members living proximately (defined as within one mile) to any health facility, while Cambodians had the highest proportion (71%). Proximity of within one mile to social services ranged from 26% for Chamorros, to nearly 62.9% for Cambodians; for BCEDP providers, the range was as low as 43% for Chamorros, and as high as 70% for Cambodians. Finally, as shown in Table 4, when both language and geographic access are considered, even smaller proportions of all communities lived proximately to an ethnic-language speaking facility.

Geographic maps of community concentrations and facility locations further clarify the difficulties in access faced by the 7 PATH for Women populations. For instance, according to Tables 2–4, previously discussed, Thai women had some access to language-specific BCEDP providers (with 7.0% of Thais living within one mile of a provider). Due to the urban density of this population (Figure 1), however, this means that there is only one Thai-speaking BCEDP provider located near, not within, the area populated by Thais. The total number of language-specific BCEDP providers located within the areas populated by PATH for Women communities were: 4 for Cambodians, 0 for Chamorros, 0 for Laotians, 1 for Samoans, 0 for Thais, 1 for Tongans, and 7 for Vietnamese.

Table 3. Geographic access—percent of population geographically proximate* to all health, social service, and BCEDP facilities in Los Angeles and Orange County

	Health Facilities (N=542)	Social Service Facilities (N=138)	BCEDP Providers (N=533)
Cambodian	71.1	62.9	69.6
Chamorro	43.4	26.4	42.6
Laotian	62.7	36.2	63.2
Samoan	51.8	49.2	48.6
Thai	48.4	17.7	48.5
Tongan	48.3	33.2	47.0
Vietnamese	55.4	35.1	52.3

BCEDP = Breast Cancer Early Detection Program.

* Defined as within 1 mile of facility.

Table 4. Language access—percent of population geographically proximate* to language-specific health, social service, and BCEDP facilities in Los Angeles and Orange County

	Health Facilities (N=542)	Social Service Facilities (N=138)	BCEDP Providers (N=533)
Cambodian	42.0	45.5	41.2
Chamorro	0.0	45.5	0.4
Laotian	12.6	10.6	7.7
Samoan	10.1	24.2	6.9
Thai	6.3	7.6	7.0
Tongan	0.0	11.5	11.5
Vietnamese	35.9	24.5	29.7

BCEDP = Breast Cancer Early Detection Program.

* Defined within 1 mile of facility that has a same-ethnicity speaker.

CONCLUSIONS

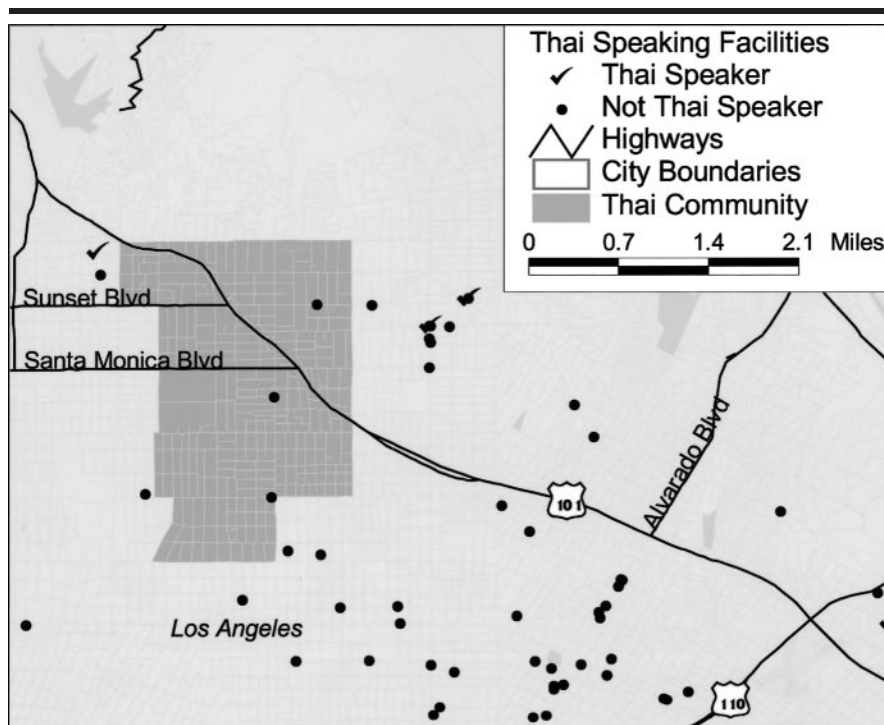
In this paper, we have presented preliminary findings from our study of access to health and social services for PATH for Women in Los Angeles and Orange counties. Based upon the criteria of both geographic proximity and language-specific availability, AAPI women in our 7 communities had min-

imal access to services, which could create significant barriers to breast and cervical cancer screenings, as well as to follow-up services. While a few of the PATH for Women communities have access to language and geographically available services, most continue to face challenges in access. Several communities (particularly Chamorros, Laotians, Samoans, Thais, and Tongans in Los

Angeles and Orange counties) face significant geographic barriers to language-appropriate care. Despite the fact that these communities comprise some of the largest populations of their nationalities in the state, an enormous need still exists to improve the language capacities of health and social service facilities for Pacific Islander and Southeast Asian women, including improving medical interpretation, when providers do not speak their patients' languages. While proximity calculations found small percentages of women living proximately to a language-specific facility, GIS maps indicate that there are very few such facilities in existence. For instance, while there is one BCEDP provider who speaks Thai in North Hollywood (where most Thais resides) this facility could not provide services to the nearly 2,000 Thai area residents.

These findings highlight the urgent need to address both factors beyond individual knowledge, and attitudes influencing breast and cervical screening rates. While many cancer control programs focus on improving an individual's knowledge, attitudes, and beliefs toward screening, we know of no published studies that have attempted to increase the number of accessible screening providers in a community. Environmental and policy influences, however, can be more powerful sources of health improvements, as evidenced by the considerable successes seen in the area of tobacco control.^{16,17} The findings from this study should emphasize to state and county policymakers the need for improvements in not only the availability, but also the language accessibility of health and social services for low-income AAPIs, with limited English language proficiency.

Despite the important implications of our findings, we caution that these are only preliminary results with several potential limitations. First, this is not an exhaustive list of all available resources in our community areas, only of those services known to the individuals in-

**Fig 1.** Proximity of screening facilities to area populated by Thais.

volved with the project. While this information should be quite reliable, considering that the PATH for Women partners function as health and social service referral agencies and individuals for their communities, thereby being in an ideal position to be aware of services throughout the 2 counties, the method is not infallible. Second, the BCEDP sites are self-identified for language access. We did not assess the level of language competency at each facility, or the positions held by those with language capacity; therefore, those at each facility who possessed language skills could have been healthcare professionals, but might also have been individuals performing less public functions, such as housekeeping, making it impossible to determine the quality of the language interpretation provided to patients. In addition, this is merely a geographical assessment of health, social, and BCEDP facilities. The maps do not take into account other environmental barriers that also contribute to access issues for communities, such as the existence of transportation routes, crime and safety issues of the areas surrounding each facility, or hours of operation. Because of the limitations of our data, residential proximity is a crude calculation of access, and future studies should assess actual availability, accessibility, affordability, and acceptability, via a deeper understanding of the contextual factors (such as modes and hours of access), as well as taking into account characteristics of facilities (such as whether a woman prefers a facility closer to her work or home). Finally, this study lacked a control group, to which access issues could have been compared, perhaps allowing for a better understanding of disparities in rates of breast and cervical cancer early detection and control.

With these limitations in mind, we hope that future studies on access to culturally and language-specific services expand upon our work in several areas. First, studies must continue to identify gaps in geographical access to breast and

cervical health services. Additional investigation is needed to identify gaps in services by language capacity, as well as to identify the level of medical interpretation proficiency of individuals at each facility designated as having the specific language proficiency. As yet, no standardization of language interpretation exists locally or nationally for medical interpretation. We also suggest that studies assess the utilization rates of community members at local health and social services sites. Because of the difficulty in accessing facilities that are culturally competent, as well as language-specific, we know that AAPI members often travel long distances to providers they trust, and with whom they can communicate (Special Service for Groups, 2001). With this in mind, we are conducting face-to-face surveys with women in all 7 PATH for Women communities, in order to identify the locations of their recent health services. We are also examining the role of bilingual health navigators in helping women access services ranging from screening to follow up and treatment, throughout the continuum of cancer care. Future efforts to improve access must ultimately involve a plan to assist providers (both public and private, at the county, hospital, and community level) in improving access to a coordinated and integrated system of health services, in order to improve breast and cervical cancer outcomes in these under-served populations.

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